

IN THE CLAIMS:

Please ADD new claims and AMEND the claims as indicated below:

1. (CURRENTLY AMENDED) An optical transmission system comprising:
an optical transmitter transmitting a WDM optical signal including a plurality of optical signals with different wavelengths;
~~a multi-stage optical amplifier~~ means for amplifying the WDM optical signal received from the optical transmitter with substantially equal gain with respect to the wavelengths of the plurality of the optical signals and for outputting the amplified WDM optical signal; and
an optical receiver receiving the amplified WDM optical signal output from said multi-stage optical ~~means~~ amplifier,
said multi-stage optical ~~means~~ amplifier including
a first-stage optical amplifier which amplifies the received WDM optical signal,
a level controller which controls a power level of the WDM optical signal amplified by the first-stage optical amplifier, and
a second-stage optical amplifier which amplifies the WDM optical signal of which level is controlled by the level controller.
2. (CURRENTLY AMENDED) An optical transmission system comprising:
a first optical transmission line through which a WDM optical signal including a plurality of optical signals with different wavelengths is transmitted;
~~a multi-an-stage optical amplifier with a configuration~~ to amplify the WDM optical signal with substantially equal gain over the wavelengths of the optical signals; and
a second optical transmission line through which the amplified WDM optical signal is transmitted, wherein the multi-stage optical amplifier ~~configuration of the optical amplifier~~ includes
a front-stage optical amplifier which amplifies the WDM optical signal to produce a front-stage amplified WDM optical signal,

a level controller which controls a power level of the front-stage amplified WDM optical signal and outputs a controlled WDM optical signal, and

a rear-stage optical amplifier which amplifies the controlled WDM optical signal to produce a rear-stage amplified WDM optical signal.

3. (CURRENTLY AMENDED) An optical transmission system comprising:
an optical transmitter transmitting a WDM optical signal including a plurality of optical signals with different wavelengths;
~~a multi-an-stage optical amplifier with a configuration to~~ amplify the WDM optical signal from the optical transmitter with substantially equal gain over the wavelengths of the optical signals; and
an optical receiver receiving the amplified WDM optical signal from the multi-stage optical amplifier, wherein the ~~configuration of the~~multi-stage optical amplifier includes
a first-stage optical amplifier which amplifies the WDM optical signal,
a level controller which controls a power level of the WDM optical signal amplified by the first-stage optical amplifier, and
a second-stage optical amplifier which amplifies the WDM optical signal of which level is controlled by the level controller.

4. (CURRENTLY AMENDED) An optical transmission system comprising:
an optical transmitter transmitting a WDM optical signal including a plurality of optical signals with different wavelengths through a first optical transmission line;
a multi-stage optical amplifier~~means for~~ amplifying the WDM optical signal received from the first optical transmission line with substantially equal gain with respect to the wavelengths of the plurality of the optical signals and for outputting the amplified WDM optical signal, the multi-stage optical ~~means-amplifier~~ including
a first-stage optical amplifier which amplifies the received WDM optical signal,
a level controller which controls a power level of the WDM optical signal amplified by the first-stage optical amplifier, and
a second-stage optical amplifier which amplifies the WDM optical signal of which level is controlled by the level controller; and
an optical receiver receiving the amplified WDM optical signal through a second optical transmission line through.

5. (CANCELED)
6. (CANCELED)
7. (CANCELED)
8. (CURRENTLY AMENDED) An optical transmission system according to claim 1, wherein the level controller includes a variable optical attenuator which variably attenuates the WDM optical signal amplified by the first-stage optical amplifier and thereby controls the power level of the amplified WDM optical signal ~~amplified by the first-stage optical amplifier~~.
9. (CURRENTLY AMENDED) An optical transmission system according to claim 2, wherein the level controller includes a variable optical attenuator which variably attenuates the front-stage amplified WDM optical signal and thereby controls the power level of the front-stage amplified WDM optical signal.
10. (CURRENTLY AMENDED) An optical transmission system according to claim 3, wherein the level controller includes a variable optical attenuator which variably attenuates the WDM optical signal amplified by the first-stage optical amplifier and thereby controls the power level of the amplified WDM optical signal ~~amplified by the first-stage optical amplifier~~.
11. (CURRENTLY AMENDED) An optical transmission system according to claim 4, wherein the level controller includes a variable optical attenuator which variably attenuates the WDM optical signal amplified by the first-stage optical amplifier and thereby controls the power level of the amplified WDM optical signal ~~amplified by the first-stage optical amplifier~~.
12. (NEW) An apparatus comprising:
a multi-stage optical amplifier amplifying a WDM optical signal including a plurality of optical signals with different wavelengths received from an optical transmitter with substantially equal gain with respect to the wavelengths of the plurality of the optical signals and for outputting the amplified WDM optical signal, the multi-stage optical amplifier including
a first-stage optical amplifier which amplifies the received WDM optical signal,

a level controller which controls a power level of the WDM optical signal amplified by the first-stage optical amplifier, and

a second-stage optical amplifier which amplifies the WDM optical signal of which level is controlled by the level controller.

13. (NEW) An apparatus comprising:

a multi-stage optical amplifier to amplify a WDM optical signal including a plurality of optical signals with different wavelengths with substantially equal gain over the wavelengths of the optical signals, the multi-stage optical amplifier including

a front-stage optical amplifier which amplifies the WDM optical signal to produce a front-stage amplified WDM optical signal,

a level controller which controls a power level of the front-stage amplified WDM optical signal and outputs a controlled WDM optical signal, and

a rear-stage optical amplifier which amplifies the controlled WDM optical signal to produce a rear-stage amplified WDM optical signal.

14. (NEW) An apparatus comprising:

a multi-stage optical amplifier to amplify a WDM optical signal including a plurality of optical signals with different wavelengths from an optical transmitter with substantially equal gain over the wavelengths of the optical signals, the multi-stage optical amplifier including

a first-stage optical amplifier which amplifies the WDM optical signal,

a level controller which controls a power level of the WDM optical signal amplified by the first-stage optical amplifier, and

a second-stage optical amplifier which amplifies the WDM optical signal of which level is controlled by the level controller.

15. (NEW) An apparatus comprising:

a multi-stage optical amplifier amplifying a WDM optical signal including a plurality of optical signals with different wavelengths received from an optical transmission line with substantially equal gain with respect to the wavelengths of the plurality of the optical signals and for outputting the amplified WDM optical signal, the multi-stage optical amplifier including

a first-stage optical amplifier which amplifies the received WDM optical signal,

a level controller which controls a power level of the WDM optical signal amplified

by the first-stage optical amplifier, and
a second-stage optical amplifier which amplifies the WDM optical signal of which level is controlled by the level controller.

16. (NEW) An apparatus according to claim 12, wherein the level controller includes a variable optical attenuator which variably attenuates the WDM optical signal amplified by the first-stage optical amplifier and thereby controls the power level of the amplified WDM optical signal.

17. (NEW) An apparatus according to claim 13, wherein the level controller includes a variable optical attenuator which variably attenuates the front-stage amplified WDM optical signal and thereby controls the power level of the amplified WDM optical signal.

18. (NEW) An apparatus according to claim 14, wherein the level controller includes a variable optical attenuator which variably attenuates the WDM optical signal amplified by the first-stage optical amplifier and thereby controls the power level of the amplified WDM optical signal.

19. (NEW) An apparatus according to claim 15, wherein the level controller includes a variable optical attenuator which variably attenuates the WDM optical signal amplified by the first-stage optical amplifier and thereby controls the power level of the amplified WDM optical signal.